

Historical perspectives of The American Association for Thoracic Surgery: John L. Yates (1873–1938)

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John Lawrence Yates (Figure 1), the 11th president of The American Association for Thoracic Surgery (AATS), was born in Milwaukee, Wisconsin, on February 27, 1873, son of Theodore Yates and Marion Jane Wolcott Yates. His maternal grandfather, Erastus Bradley Wolcott, was surgeon general of Wisconsin, and his maternal grandmother, Dr Laura Ross Wolcott, was the first female physician in Wisconsin. Regarded as a “suffragist physician,” Dr Ross spent most of her career fighting for acceptance and equal rights in her profession. After a long battle, and with her husband’s support, she became the first woman elected to the Milwaukee City Medical Society. There is also a monument in Milwaukee’s Lake Park of Yates’s grandfather in military dress riding a horse with an inscription that reads: “Brig. Gen. Erastus B. Wolcott Lived a Blameless Life—Eminent in His Profession—A Lover of Humanity Who Delighted to Serve His Fellow Man, His City, State, and Nation.” Friends of Dr “Jack” Yates, later recalling his heroic feats, described him with similar accolades: “honesty, both intellectual and actual; loyalty, never failing a friend in time of need,”¹ “an idealist who was disappointed in his failure,”² and “a man of great scientific curiosity, an unquenchable desire to do something for humanity.”³

Yates’s father was a highly decorated colonel in the Union Army and Civil War hero. He was commander of the 13th Infantry Regiment, which lay siege to Vicksburg and was the first to plant its colors on Confederate-held ground.⁴ Colonel Yates had both arms shattered carrying the colors during that conquest and returned to Milwaukee in 1863, where he became commandant of the newly developed Injury Zone for Disabled Volunteer Soldiers, which evolved into the Veterans Administration medical system. Colonel Yates married the surgeon general’s daughter in Milwaukee after the war. John and his sister were born a few years later. Yates’s boyhood home at 2710 W State Street in the Concordia District is designated as a historic home by the Milwaukee Historical Society, representing Gothic Revival architecture with steeply

pitched roofs, pointed-arched windows, and label moldings.⁵

Although John spent his childhood years in Milwaukee, he attended college preparatory boarding school at the prestigious Phillips Exeter Academy in New Hampshire. Yates graduated from Yale University in 1894. After a year in basic science research studies at the University of Wisconsin, Madison, he matriculated at Johns Hopkins Medical School, receiving his medical degree in 1899. Yates began his professional career as an assistant in pathology at Johns Hopkins, followed by 3 years in Dr Simon Flexner’s pathology department at the University of Pennsylvania. Yates’s graduate training in clinical surgery was initiated at Hopkins with Dr Halsted as a part-time apprentice during off hours from the pathology department. He completed his second year of surgical training in 1906 as an apprentice at Augustana Hospital in Chicago to Dr Albert J. Ochsner, a renowned surgeon and cousin and mentor to Alton Ochsner, 27th AATS president.

Yates had a reputation of enjoying the good times as a “grand playboy,” who played as hard as he worked.¹ He frequently offered “liquid nourishment” to visiting professors as an enticement to lecture at his institutions during the prohibition era.⁶ Yates married Katherine Gross from Harrisburg in 1905 during his tenure at the University of Pennsylvania but never had any children. In 1906, Yates began a private practice in Milwaukee at Milwaukee County, Milwaukee Children’s, and Columbia Hospital, where he settled for the remainder of his career. His titles included Research Professor at the University of Wisconsin, Madison, and Head of Oncology at Marquette University School of Medicine, which later became the Medical College of Wisconsin. Yates was considered among the leading physiological surgeons in the world during the first quarter century of the 1900s.

Yates was among the busiest clinical surgeons in Milwaukee after 11 years in practice, but he volunteered for the Medical Corps immediately after the United States declaration of war on the Imperial German government in 1917. Yates had a profound sense of patriotism and could never forgive those whom he considered to be slacking in their duty to serve. Lieutenant Colonel Yates was stationed in Dijon, France, and spent most of his time in evacuation hospitals as close to the front lines as he could get. He performed extensive groundbreaking research on the impact of gunshot wounds and surgical shock and was the “go-to guy” for chest injuries.⁷

Yates had a fearless, pragmatic approach to experimental research. Colleagues referred to him as the “human guinea pig”—and after his death as a “martyr to science”—because

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FIGURE 1. *Top*, John Lawrence Yates (photo courtesy of Historical Archives, Becker Medical Library, Washington University School of Medicine, St Louis, Mo). *Bottom*, Signature of John L. Yates.

of his approach and dedication to research at all costs.³ On several occasions, Yates inoculated himself with toxins or anecdotes as the subject of experimentation when he believed that human studies were essential and no other suitable primate subjects were available. During his investigation of Hodgkin disease, Yates inoculated himself with untested antibodies obtained from horse serum. Later, during his investigation of breast cancer, Yates injected himself with cancerous extracts from resected primary tumors in an attempt to develop improved techniques for earlier diagnosis of this crippling disease, a subject for which he had a keen passion.

Yates's penchant for self-experimentation likely contributed to his eventual death. Two years before his death, in the course of his experimental work in tuberculosis, Yates inoculated himself with an active toxin he thought showed potential as a novel diagnostic management tool. Unfortunately, the toxin proved more than his immune system could tolerate, and he acquired active tuberculosis as a consequence. Yates spent the better part of the following year next in the Arizona high desert, trying to rid himself of active infection. In personal letters dated March of 1938 (8 months before his death) to Dr Evarts Graham, 10th AATS president and one of his closest friends, Yates described his convalescence⁸:

Sorry not to have been down during the winter. Have been playing safe and becoming a sis. Barely smoke, scarcely drink and do not swear. This is enough of a load for anybody to carry. Like a damn fool, have been catching cold again lately. Don't pay to be righteous.

Although Yates returned from Arizona cured of his active infection, he remained weak. He died suddenly on

November 3, 1938, 3 days after development of a streptococcal throat infection.

Yates's contributions to surgical knowledge were profound. In the early 1900s, drainage of the peritoneal cavity was routine to treat peritonitis from various causes. It was Yates, through detailed clinical observations and a series of animal experiments, who first concluded that "drainage of the general peritoneal cavity is physically and physiologically impossible" and "aside from hemostasis, there is no justification" for drainage.⁹ In his landmark 1905 paper, which was awarded the Senn Medal by the American Medical Association, he demonstrated that (1) reactive encapsulation of drains was immediate; (2) persistence of serous drainage was due to irritation of the contiguous peritoneum in reaction to the foreign body, rather than the underlying pathology; and (3) bacterial migration can occur into the peritoneal cavity through the drain.

In the 1910s, during his investigation of Hodgkin disease, Yates often paid the hospital bills from his personal funds for patients who could not afford treatment. Although he was not able to develop a successful therapeutic approach, Yates became one of the world's expert in the disease, for which he was awarded the Samuel D. Gross Prize from the Philadelphia Academy of Surgery, an award given every 5 years for the best original research in surgery by an American citizen. In 1915, Yates and C. H. Bunting from the University of Wisconsin, Madison, published the landmark authoritative work on the pathophysiology, diagnosis, and treatment of this previously poorly understood disease.¹⁰ His demonstration of the futility of radical excision was the impetus for the eventual abandonment of operative treatment for Hodgkin disease.²

Yates's "delicious, but kindly" sense of humor was misunderstood by some, but it was the source of "constant joy and great love" to those in his close circle.² With his hearty laugh, Yates was regarded as a "glorious companion in fun or fight."¹ Yates was an avid sports fan, often driving down to visit Graham in St Louis for a Cardinals game or securing a couple of 50-yard line seats at the Yale-Princeton football game for him and his close friend (but gridiron rival, Princeton being Graham's alma mater). Yates, who was also an active member, regular attendant, and frequent discussant at American Surgical Association meetings, offered some commentary on Graham's being elected president in 1936¹¹:

Dear Evarts: Was delighted to learn that you had been properly rewarded by being elected president of the American Surgical Association. We are delighted because for one year at least the program will not be utterly bromidic. Ever yours, Jack

On April 26, 1928, Dr Yates delivered his AATS presidential address, "Pulmonary Tuberculosis: Pathology and Treatment."¹² He started by noting, "There are approximately 625,000 people suffering from pulmonary

tuberculosis in this country, 85,000 of whom will die within the year.” Yates went through a daunting, complete dissertation, including the biology of the tubercle bacilli; its invasion, survival, and evolution in the host; prevention, which included his suggestion to “introduce wholesome living more generally”; and treatment options. He talked about the impact of morale on recovery¹²:

The will to recover and to keep well is aggressive optimism. Optimism is developed and maintained with the realization that suitable efforts are being made to promote mental as well as physical welfare. Gaining in strength alone is of little value without a desire to work and an anticipation of the reward of accomplishment.

With a brigadier general for a grandfather and a fearless colonel for a father, there is no doubt where Dr Yates acquired his unyielding work ethic, sense of patriotism, and never-ending quest to seek answers to the important maladies of his day. Dr John Lawrence Yates was an outstanding clinician and relentless investigator, the consummate “physiological surgeon.”

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